

NOTE ON LOCUSTS AS PROPAGATORS OF
FOOT AND MOUTH DISEASE.

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READ JULY 26, 1893.

Several isolated outbreaks of foot and mouth disease have occurred in our district (Albert) which could not be ascribed to the ordinary channel of infection. Take as a typical case that of Mr. Jacob Kruger, of Tamfontein. He grazes his milch-cows in a paddock where no other stock is allowed to enter, and which is situated at a considerable distance from the cattle-run. No road passes through or near the paddock; the cows have for some time past not been in contact with other animals, healthy or sick; the rest of the stock on the farm were all healthy, and so were the herds of the neighbours for at least two removes deep. Suddenly foot and mouth disease breaks out among these cows.

It is well known that cattle suffering from the foot and mouth disease secrete a great quantity of frothy tenacious mucus which adheres to the herbage. Mr. Piet Hennings, one of our most intelligent farmers, found that locusts coming from infected localities near his farm were covered with this secretion, which had clung to them whilst settling on the tainted spots. Here we have a feasible, if unexpected and startling, solution of the mystery. An additional element of danger lies in the fact that all our domestic animals, without exception, greedily devour locusts. For the time being they forsake their ordinary food to feast on them; and with reason, for thus fed they fatten and thrive in a remarkable degree. It is of interest, and worth noting, that two decades having elapsed since our last visitation, the graminivorous animals then alive, and addicted to the habit, have in the interval practically all died, consequently when the present invasion came, our cattle, at first, did not touch them; but probably during night-grazing, when the locusts cluster in a torpid state on each shrub and culm, they speedily discovered the delicacy, and now locust-eating has again hardened into a universal practice.

If it can be established that locust infection is a fact and of frequent occurrence, then the immense swarms which now overspread the country must render all attempts at isolation and quarantine nugatory and impossible in those tracts where the locusts are found. However, even such an unavoidable and prolific source of infection would not be an unmitigated evil if it were to result in determined and persistent efforts to destroy the locust pest, if it were to rouse the country from its apathy, and if it led to the

systematic and more general storage of ensilage and other winter forage for stock.

What makes the matter more serious is that, if what I am trying to establish is a fact, the locusts are a double source of danger; they act in the first place as infection-carriers, and then, by devouring the herbage, they deprive our ruminants of their only chance of overcoming the disease.

Our farmers associate locusts and foot and mouth disease. They hold, with how much truth I cannot say, that the disease is epidemic when locusts are abundant. This much is certain: the end of the last visitation of locusts dates back about twenty years; during the interval foot and mouth disease was unknown.

Whilst on the subject of locusts, I may mention, as perhaps of some interest, that twenty years ago the number of swarms steadily decreased before they entirely disappeared, and it was universally held here by our farmers that the cause of extinction was the parasitic 'worm.' The later swarms were all found to be thus infected. I have no doubt in my own mind that this is the correct explanation. The swarms died before they could lay their eggs. The same thing is happening now, and upon this fact I base a hopeful augury for the future. About three months ago I examined a number of locusts from a swarm passing over the village; two-thirds had each from two to three larvæ flourishing in their vitals. Nature is thus efficiently aiding us. Shall we assist Nature?

In 1832, or thereabouts, in addition to the chronic visitation of the ordinary kind an immense swarm of a different species appeared. They were much larger, redder, and more robust on the wing. At first they kept apart, but eventually got scattered by and intermixed with the ordinary kind, from which they could easily be distinguished on the wing on account of their greater size. 'They looked like little birds flying in company with the locusts,' are the words of one of my informants. They settled principally on trees, which they stripped of their leaves. It was the beginning of the fruit season, and they devoured green and ripe fruit indiscriminately. They had not been seen before nor since. Could this have been an invasion from Northern Africa of *Acridium peregrinum*?